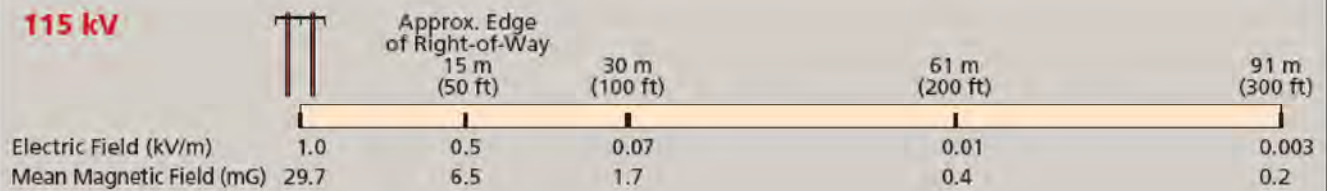
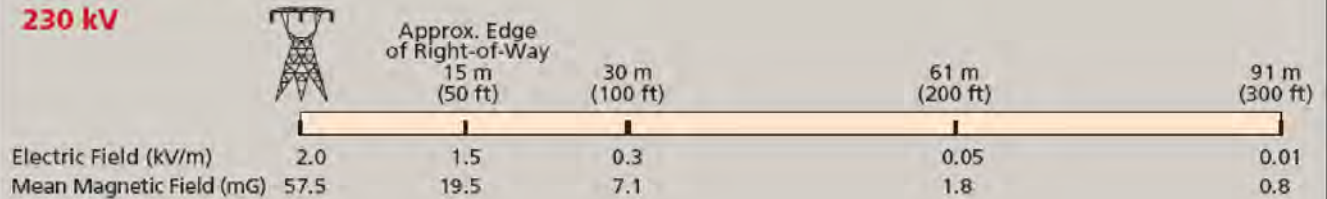


Typical EMF Levels for Power Transmission Lines*

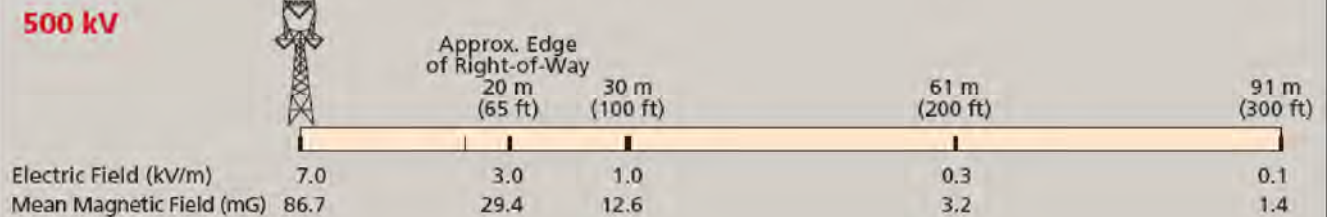
115 kV



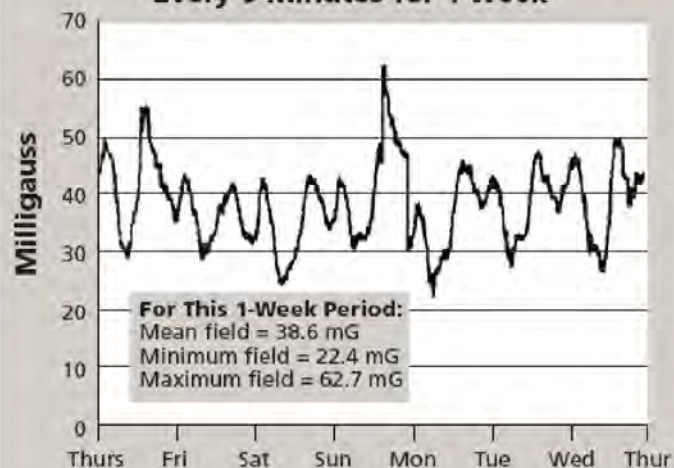
230 kV



500 kV



Magnetic Field from a 500-kV Transmission Line Measured on the Right-of-Way Every 5 Minutes for 1 Week



Electric fields from power lines are relatively stable because line voltage doesn't change very much. Magnetic fields on most lines fluctuate greatly as current changes in response to changing loads. Magnetic fields must be described statistically in terms of averages, maximums, etc. The magnetic fields above are means calculated for 321 power lines for 1990 annual mean loads. During peak loads (about 1% of the time), magnetic fields are about twice as strong as the mean levels above. The graph on the left is an example of how the magnetic field varied during one week for one 500-kV transmission line.

*These are typical EMFs at 1 m (3.3 ft) above ground for various distances from power lines in the Pacific Northwest. They are for general information. For information about a specific line, contact the utility that operates the line.

Source: Bonneville Power Administration, 1994.

Source: NIEHS, 2002



Figure 5.6-2
Typical EMF Levels for Power Transmission Lines
 Hiawatha Transmission Line
 Xcel Energy
 Minneapolis, Minnesota

June 2010